MicroVAX Diagnostic Monitor Release Notes

Order Number AA–GO3AU–TN

These release notes describe restrictions, undocumented features, and other essential information about the MicroVAX Diagnostic Monitor (MDM) Version 4.2, Release 131. These release notes supersede all other MDM documentation.

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Preface

These release notes describe new features, enhancements, and bug fixes for the MicroVAX Diagnostic Monitor (MDM) Version 4.2, Release 131 as they apply to all MDM users.

Intended Audience

These release notes are intended for the following people:

- System managers who are installing MDM
- Individuals responsible for maintaining MicroVAX systems
- Diagnostic Developers

Document Structure

These notes are organized as follows:

- Chapter 1 lists updates.
- Chapter 2 lists problems and corrections.

Associated Documents

The following is a list of the available MDM documents:

- *MDM Programmer's Guide*
- *MDM Development Kit Installation Guide*
- *MDM User's Guide*
- *MDM Ethernet Server User's Guide*
- *MDM Hard Disk User's Guide*
- *MDM Reference Card*

Conventions

This book uses the following conventions:

KEY	Indicates a key on your keyboard.
CTRL/key	Indicates control keys. For example, Control C is shown as CTRL/C.
Bold print after prompt	Indicates user input.
UPPERCASE characters	Indicate input that you should type exactly as shown.
lowercase characters	Indicate input that you should replace with an appropriate word or phrase. For example, in the following interactive command: `MDM>> SELECT devicename` SELECT should be typed as shown, but *devicename* should be replaced with the actual name of a device.

Chapter 1
Updates

This chapter updates information necessary to run MicroVAX Diagnostic Monitor (MDM).

1.1 General MDM Updates

This section updates hardware and installation requirements.

1.1.1 2M-Byte System Support Restriction

MDM Release 131 requires a minimum of 2 megabytes of memory. The monitor uses approximately 1.5M bytes. Note that the average diagnostic requires roughly 350K of memory; if the memory requirements exceed the available memory, MDM does not run.

1.1.2 Operating Environment

Users of the MDM development kit must install VAXELN 4.0 for use with MDM Version 4.2, Release 131.

1.1.3 Remote Console

MDM remote console can only be run on one target system at a time from a particular host account. When a second remote session is initiated from the same account, either an exception occurs on one of the target systems or neither target system runs MDM correctly.

1.1.4 Device Diagnostic Support

Table 1–1 provides updates on device support.

Table 1–1: Device Diagnostic Support

Controller	Device	Revision	File Name
CPU	KA620	J	NAKAA

Table 1–1 (Cont.): Device Diagnostic Support

Controller	Device	Revision	File Name
	KA630		
	KA640		
	KA650		
	KA655		
	KN210		
MEMORY	MS630	J	NAMSA
MEMORY	MS650	F	NAMTA
LPV11	LP25	G	NALPA
	LP26		
	LP27		
	LG01		
	LG02		
RQDX2 & RQDX3	RX50	Q	NARXA
	RD32		
	RX33		
	RD52		
	RD53		
	RD54		
KDA50–Q & KLESI	RA60	Q	NAKDA
	RA70		
	RA81		
	RA82		
	RA90		
	RC25		
TQK50	TK50	I	NATKA
	TK70		
DEQNA	–	Q	NAXQA

Table 1–1 (Cont.): Device Diagnostic Support

Controller	Device	Revision	File Name
DELQA	–	Q	NAXQA
DESQA	–	Q	NAXQA
DLV11	–	D	NADLA
DZQ11 & DZV11	–	G	NADZA
DRV11–WA	–	I	NADRA
DRV11–J	–	E	NADRB
DPV11	–	G	NADPA
DMV11	–	I	NADMA
KRQ50	RRD40	J	NARRA
	RRD50		
KMV11A (KMV1A)	–	F	NAKMA
KMV11B (KMV1B)	–	F	NAKMB
IEQ11	–	B	NAIEA
DHQ11		K	NADHA
CXY08	–		
CXA16	–		
CXB16	–		
CXF32	–		
DHF11	–		
DHV11	–		
DFA01	–	E	NADFA
VCB01	–	F	NAVCA
KWV11–C	–	F	NAKWA
ADV11–DA	–	G	NAADA
AAV11–DA	–	H	NAAAA
AAV11–C	–	B	NAAAC
ADV11–C	–	B	NAADC

Table 1–1 (Cont.): Device Diagnostic Support

Controller	Device	Revision	File Name
AXV11–C	–	E	NAAXA
VCB02	–	F	NAVCB
DSV11	–	G	NADSA
VSV11	VSV21–AA	G	NAVVA
	VSV21–CA		
	VSV90		
DRQ11–C	–	B	NADQA
LNV11	–	D	NALAA
LNV11–A	–	C	NALNA
KLESI	TU81	H	NATUA
	TU81E		
TSV05	TS05	J	NATSA
DRQ3B	–	F	NAQBA
IBQ01	–	C	NAIBA
IAV11–A	–	D	NAIAA
IAV11–B	–	D	NAIAB
IDV11–A	–	D	NAIDA
IDV11–B	–	G	NAIDB
IDV11–C	–	C	NAIDC
IDV11–D	–	D	NAIDD
MIRA	–	G	NAMIA
KXJ11	–	H	NAKXA
ADQ32	–	F	NAAQA
RV20	–	F	NARVA
DESNA	–	D	NACQA
DTC–04	–	C	NADTA
IGQ11	–	B	NAIGA

Table 1–1 (Cont.): Device Diagnostic Support

Controller	Device	Revision	File Name
KWV11–C	–	B	NAKWB
KWV11–W	–	B	NAKWB
POLARSTAR	–	C	NAQCA
GS03–WD–DHV11	–	A	NAGSA
GS03–WD–DQZ11	–	A	NAGSB
LANCE	–	D	NALAN
DSSI	RF30	C	NADSI
	RF71		
VS550	–	C	NAVSA
KFQSA	RF30	F	NAKFA
	RF71		
DIV32		D	NADIA
KWV32		A	NAKWC
DELIX[1]	–	D	NADXA
RQX05	–	D	NARQA

[1]Indicates diagnostics that are included on the media, but are not supported in the auto-configuration information. To use these diagnostics you must use the custom configuration commands.

1.1.5 MDM System Notes and Updates

You will find a Software Performance Report (SPR) form in each kit. These SPR forms provide two functions. First, they are a means of letting the software developers know as soon as possible about problems found in the product. Secondly, they provide users a way to offer suggestions based on actual use of the product.

1.1.6 TK50 Load Times

Table 1–2 is a chart of TK50 and TK70 load times for MDM versions 114 through 131. Load time is the length of time necessary for a system to load and configure the diagnostics for the individual devices in the system. The listed times do not include the length of time needed for the monitor to load initially (the elapsed time from the boot command to the display of the disclaimer).

Table 1–2: TK Load Times (in minutes)

Release	TK50	TK70	TK50	TK70	TK50	TK70	TK50	TK70
	(CONFIG 1)		(CONFIG 2)		(CONFIG 3)		(CONFIG 4)	
114	07:49	na*	06:50	na*	19:52	na*	09:30	na*
115	25:55	na*	39:44	na*	35:23	na*	14:21	na*
116	09:33	na*	12:21	na*	24:49	na*	12:19	na*
116A	11:21	na*	09:47	na*	25:59	na*	12:54	na*
118	10:25	na*	10:30	na*	29:46	na*	13:06	na*
120	10:12	06:55	10:11	07:01	31:02	23:21	13:15	07:55
121	07:30	04:59	06:04	05:57	17:49	15:22	07:40	05:55
122	06:18	05:08	06:22	05:07	19:04	16:28	07:48	06:03
123	07:26	05:11	06:29	05:12	19:41	16:42	09:17	06:10
124	09:36	07:00	09:17	06:50	21:55	18:52	11:08	08:18
125	10:05	07:40	10:10	07:30	22:25	21:04	12:12	08:45
126	09:47	07:09	09:42	07:03	23:25	21:11	11:20	08:30
127	09:31	07:08	09:36	07:00	24:02	21:23	11:27	08:24
128	08:03	07:21	10:11	06:20	23:29	20:26	11:07	07:38
129	09:12	06:33	08:25	05:49	23:11	19:31	na**	na**
130	07:18	05:50	08:32	05:51	22:57	19:15	na**	na**
131	09:10	06:30	22:42	05:56	24:02	20:31	na**	na**

* Load times are listed in minutes. Versions before 120 did not support TK70 drives. No comparisons can be made between those versions and versions between 120 and 131.

** As of Version 4.0, Release 129, Config 4 will not be supported.

Key to Configuration Devices

- Config 1 = CPU, MEM, DEQNA, RQDX2, DHV11, TK
- Config 2 = CPU, MEM, DEQNA, TK, TSV05, DMV11, KDA50, CXY08
- Config 3 = CPU, MEM, RQDX3, TK, DEQNA, DHV11, KDA50, RC25, DZV11, DZQ11, DPV11, KWV11–C
- Config 4 = CPU, MEM, DEQNA, RQDX3, TK, VCB02

The difference in load times on the same system between a KA650 CPU and a MicroVAX CPU is less than 3%, even though the KA650 is 3.8 times faster than the MicroVAX 3800/3900. Thus, load times are not CPU-dependent.

1.1.7 Order Number Reference

Table 1–3 lists order numbers for current diagnostics.

Table 1–3: Order Number Reference

Part Number	Title
ZNA02–GZ	MV DIAG MDM ENET CUST DOC
ZNA02–P5	MV DIAG MDM ENET CUST TK50
ZNA02–PH	MV DIAG MDM ENET CUST RL02
ZNA02–PM	MV DIAG MDM ENET CUST 1600 bpi MT9
QZ–K14AA–U3	Customer Diagnostics on RX50
QZ–K14AA–U5	Customer Diagnostics on TK50
QZ–K05AA–H5	MV DIAG MDM ENET MAINT TK50
QZ–K05AA–HH	MV DIAG MDM ENET MAINT RL02
QZ–K05AA–HM	MV DIAG MDM ENET MAINT 1600 bpi MT9
QZ–K05AA–GZ	MV DIAG MDM ENET MAINT DOC
QZ–K15AA–GZ	MV DIAG DEV DOC KIT
QZ–K15AA–H5	MV DIAG DEV TK50
QZ–K15AA–HM	MV DIAG DEV KIT 1600 bpi MT
QZ–K17AA–H5	MV DIAG ULTRIX ENET MAINT TK50
QZ–K17AA–HM	MV DIAG ULTRIX ENET MAINT 1600 bpi MT
QZ–K17AA–GZ	MV DIAG ULTRIX ENET DOC KIT
QZ–K17AA–U5	MV DIAG ULTRIX ENET CUST TK50
QZ–K17AA–UM	MV DIAG ULTRIX ENET CUST 1600 bpi MT
QZ–K18AA–U5	MV DIAG RA/RD CUST DIAG TK50
QZ–K18AA–UM	MV DIAG RA/RD CUST DIAG 1600 bpi MT
QZ–K18AA–H5	MV DIAG RA/RD MAINT DIAG TK50
QZ–K18AA–HM	MV DIAG RA/RD MAINT DIAG 1600 bpi MT

Table 1–3 (Cont.): Order Number Reference

Part Number	Title
QZ–K19AA–H3	Maintenance diagnostics on RX50
QZ–K19AA–H5	Maintenance diagnostics on TK50
QZ–K19AA–GZ	Maintenance documentation

1.1.8 Automatic Distribution of Diagnostics

Each geographic area within the U.S.A has a designated diagnostic contact. (See Table 1–4 for a list of the contacts.) Field personnel should work with their area contact for all diagnostic needs, including additions and deletions to the ADS mailing lists for all VAX, PDP–11, MicroVAX, MICRO–11, and KLAD systems, and any newly released system. They should also work with their area contact to resolve problems.

Table 1–4: Area Contacts for Diagnostic Distribution

Area	Contact	Direct	DTN	ENET Address
CENTRAL	Corine Gordon	312–640–0301	421–5640	DECMAIL::GORDON
CSC–ATLANTA	Esther Creek	404–953–6174	435–3293	DECMAIL@IPO
CSC–COLORADO	Frank Mendez	719–548–5587	522–5587	NEXUS::MENDEZ
EAST CENTRAL	Karen Pickett	313–347–5406	471–5406	USFHSL::PICKETT
IN–DEC	Maddy Vega	508–467–8274	262–8274	SENIOR::VEGA
MID–ATLANTIC	Pat Kozlowski	215–283–4241	328–4241	DECMAIL@PHH
NEW YORK	Bernie Couillard	212–884–6780	335–6780	OBIWAN::COUILLARD
NORTHEAST	Pearl Magiera	508–441–6624	288–6624	NERSW5::MAGIERA
SOUTH CENTRAL	Carolyn Duerksen	214–702–4606	483–4606	DPOMAI::DUERKSEN
SOUTHERN	Gwen Brinkley	404–257–2455	351–2455	ODIXIE::GBRINKLEY
SOUTHWEST	Peggie Rose Kozo	714–261–4418	NONE	SWAM1::ROSE_KOZO
WESTERN	Susan Brown	408–496–3014	521–3014	WR1FOR::BROWNSU
GIA	Sonny Newson	719–548–5499	522–5499	BSS::NEWSON

1.1.9 DEQNA as Debugging Device

The DEQNA is the proper load device to use in a debugging session.

1.1.10 MDM Boot Capabilities

Table 1–5 lists the MDM boot and diagnostic load capabilities for media vs system. You must order the appropriate kits.

Table 1–5: MDM Boot Capabilities

Boot Media	MicroVAX/rtVAX	DECstation 5400
RX	yes	not available
TK	yes	yes
Network	yes	yes *
Hard Disk	yes	no

* Host boot node can be on ULTRIX or VMS host, provided DECnet is installed.

1.2 Booting MDM from a VMS Host to a DECstation 5400 System

With the MDM Release 131 Ethernet Server kit, you can boot a DECstation 5400 target system over the LANCE port using the new NAU07AO.SYS MDM bootable image. As with previous releases, you still must install the MDM Ethernet Server Kit to use the new image.

The NAU07AO.SYS MDM bootable image requires an additional 3135 blocks of memory.

1.3 MDM Diagnostic Notes and Updates

All diagnostics have been rebuilt and are incompatible with previous versions of MDM. The diagnostics are source-compatible only. The following diagnostics have been revised for Version 4.2, Release 131. The last letter indicates the revision level of the diagnostic.

- NADIAD
- NAIAAD
- NAIABD
- NAIDAD

- NAIDBG
- NAIDDD
- NAKAAJ
- NAKDAQ
- NAKFAF
- NARQAD
- NARRAJ
- NAXQAQ

Chapter 2
Problems and Corrections

This chapter discusses monitor and diagnostic problems.

2.1 Monitor Problems

Monitor problems are divided into four categories:

- Menu problems
- Command Line Mode problems
- Development problems
- Miscellaneous problems

2.1.1 Menu Problems

You may have to do additional CONFIGURATION for Menu 4.3, the Display the Device Menu from the Service Menu. If you bring up MDM, configure the system through CLM, and then enter option 3 of Main Menu 4, the following message and prompt appear:

```
This menu lets you select a device for testing.

No devices in this configuration
You must run CONFIGURE first

Press the RETURN key to continue. >
```

This message is incorrect because it tells you that there are no devices in the configuration. and that you must run Configure before entering this menu option, even though you have already configured the system through CLM.

This message appears every time any you try to enter this menu until you run a Menu Mode option that that causes the system to be configured again. After you do a Menu-Mode configure, you can enter this menu (4.3).

2.1.2 Command Line Mode Problems

The following sections describe Command Line Mode problems.

2.1.2.1 UNITS ENABLE and DISABLE Do Not Work if Unit # >15

The UNITS command in MDM allows you to ENABLE or DISABLE individual device units. Devices have unit numbers anywhere from 0 to 1024. However, if you enter the UNITS ENABLE or the UNITS DISABLE command with a unit number greater than 15, the following message is displayed:

```
Invalid unit number, Unit number range 0-15
```

You have no way to disable or enable any units declared by any devices if the unit numbers are greater than 15.

2.1.2.2 Reset Config Takes One Hour w/rv20 on NA04 image

There is a problem when you load the following configuration through the NA04A (TK50 tape image):

- MicroVAX II
- Memory
- TK50
- RQDX3
- CXF32
- Four RV20s

If one of the RV20s is connected, and a configuration is done, the system operates normally until you enter a RESET CONFIGURATION command. After the RESET CONFIGURATION command, the system does not respond. It appears to be hung. However, after approximately one hour, MDM returns the MDM prompt.

To avoid the problem with the previously listed configuration, you should reboot rather than issue a RESET CONFIGURATION.

2.1.3 Development Problems

The DSL$Delete_Device command does not delete multiple objects. When you make multiple calls to DSL$Create_Device, the device objects appear normal. For example, you can manipulate the device objects with calls to DSL$Allocate_Map. However, when you attempt to delete these objects with DSL$Delete_Device, only the first device object is deleted. Subsequent

calls return the DSL status of DSL$Bad_state. The device objects are not deleted.

2.1.4 Miscellaneous Problems

The following sections describe miscellaneous problems.

2.1.4.1 Unsupported Devices

Unsupported devices can display detailed messages from within tests; the detail message flag cannot be turned off for these devices.

2.1.4.2 RC25 - nakdal - Functional tests Can Give Fatal Bugcheck

When running the functional tests with pass set to 0 on the KDA50 diagnostic running on the RC25 with the KA650 the following fatal bugcheck occurs:

```
** Fatal Bugcheck, uVDOS V3.0. UNXINTEXC, unexpected interrupt
                                                    or exception

Job 000300D2, Program: nakda

  R0      ...     R4        R5      R6        R7
00000001 ...   00000005 00000001 00000000 00000005
7fffffff ...   000011ea 7ffffd18 80055bf0 80004e04
  R8      ...     AP        FP        SP        PC

KERNEL/INTERRUPT STACK

   80055BF4 04170000
 80055BF8 000096D4
 80055BFC 000000A0

System shutdown complete - use console to halt system
```

This occurs on different pass numbers ranging from 1 to 137; however it usually occurs after running test 1.

2.1.4.3 RF Boot off DSSI Hangs after Reset Config/Config

MDM can boot the hard-disk kits from the DSSI port of the MicroVAX 3300/3400 and MicroVAX 3800/3900. The monitor boots (MDMDIA.SYS image) and loads the diagnostics correctly on the initial load. However, when you perform a Reset Configure (through either the CLM Reset Configure command, or the Menu Mode menu 5.4 - Activate Menu) followed by a Configure, the monitor displays the following message and hangs.

```
The system is preparing for testing.

This may take several minutes.
Please wait...
```

You must reboot the system for testing to continue.

2.1.4.4 MDM Monitor Does Not Boot from a Second RF Drive DSSI Port

When booting MDM from an RF drive attached to the DSSI port, you must use unit 0. You get a "Fatal Error" when booting from any drive other than DIA0.

A possible workaround is to switch the Drive Designation Keys so that the drive that MDM resides on becomes DIA0. However, once MDM is completed, you should return the Drive Designation Keys to their initial values.

2.1.4.5 KN210 Processor Does Not Boot over LANCE

When you boot MDM on a KN210 processor over the LANCE with the load image pointing to either NA09AO.SYS or NA10AO.SYS, you encounter an error that terminates the boot process. The following is the boot command and the result:

```
>>>Boot ESA0

2..
ESA0
1..0..

uVDOS V4.0 Built on 17-Jan-1990 2:00

?06 HLT Inst
    pc = 800051DA
>>>
```

This is a problem only for those users who down-line load from a VMS host to a DECstation 5400 target system. A user who downline loads from a DECstation 5400 host to another DECstation system should not have any problem.

A possible workaround is to install the MDM Ethernet Server Kit and boot the NAU07AO.SYS bootable image.

2.1.4.6 Messages Can Be Lost if Diagnostics Error While in CTRL/C mode

If you enter CTRL/C mode while exercising a system and a diagnostic errors, some of the error messages can be lost if detailed message is set ON. The monitor still counts the errors but the messages and the errant diagnostic may be lost.

2.1.4.7 IGQ11 Device Will Not Configure

When loading MDM through the DEQNA, the IGQ11 diagnostic gets loaded but does not configure the device.

2.2 Diagnostic Problems

The following sections describe diagnostic problems.

2.2.1 LANCE - Diagnostic Does Not Include Device Name in Setup

The LANCE diagnostic does not include the device name within its SETUP message.

2.2.2 DZV11/nadzaf - Fails Exerciser Test 1 with DTQNA in Config

A bus timing problem occurs with the DZV11/DZQ11/DTQNA configured in a system. The failure happens with the DZV11 as the second DZA device. This failure only occurs after the initial boot, not after a reset config or config. The failure has also been observed when the DZV11 is the first DZA device in the configuration, but the frequency of occurrence is less.

The failure has been observed when the bus is set up as follows:

```
nakaa   160000  000
namta   160000  000
narxa   172150  154
natka   174500  260
nadza   160100  300     dzq11
nadza   160110  310     dzv11
nadha   160500  320
nazqa   172570  330     dtqna
naxqa   174440  120
```

2.2.3 DTQNA/nazqaa - Cumulative Pass Count as Printed is Confusing

A progress message printed during the running of exerciser and functional tests gives the total count of the number of passes of all tests run. This count is incremented each time the diagnostic runs any test and the message is printed after every 10 passes. When the monitor prints out the following messages, a user could be confused as to exactly how many passes were executed:

```
pass 1 test 1 started
pass 2 test 1 started
the test has run 10 passes
```

2.2.4 DSSI

When you run the verify test 4 of the DSSI and have the drive off line, the test fails. The verify tests are supposed to run whether or not a drive is attached and on line. This is only a READ test, but still needs the DUP code to run, which does not happen if the drive is off line.

2.2.5 KDA50–QA

The RA82 drive must be spun up in order for the verify mode test to pass. If they are not ready, the following error appears:

```
An unrecoverable error has occurred on drive number 0.
Error occurred during MSCP Online command.
MSCP Command Reference Number: 00000003.
MSCP Command status: Drive unit off-line
MSCP status subcode: No volume mounted or run/stop switch is off

KDA50QA - Error Number 47 29-JUN-1988 08:00:00.48
Drive became "unit-offline" during a MSCP operation.
Fixed media disk drive
KDA50QA failed.
```

2.2.6 KDA - Fatal Bugcheck During Config If Nonexistent CSR Used

When you use a KA650 CPU, with no KDA board, and connecting in a non-existent CSR address for a KDA followed by a configure of the system, the diagnostic should look to see if a device is at the specified address, and when there is no response, disable itself. This does work with a MicroVAX CPU but produces a fatal bugcheck if the CPU is a KA650. This also happens with a TK50.

The following are the detail messages produced.

```
***** Fatal Bugcheck, VAXELN V4.0 FATLMEMERR, unrecoverable
                                                  memory error

        current job = 000300c2

        Program Name= NAKDA


Press return to view remainder of bugcheck info.....

        Register Dump
```

```
            R0 = 8018ac78
                    .
                    .
                    .
            PSL=041d0008

      Kernel/Interrupt Stack

            800747f8../....


system shutdown complete
```

2.2.7 MIRA

When running utility tests 3, 4, or 5 on the MIRA and after the individual general SETUP messages are displayed, you are prompted to enter a 1 or 2 and press RETURN, corresponding to the particular mode (maintenance or installation) that you are in.

If you enter an out-of-range number (either 0 or greater than 2), the cursor drops to the beginning of next line and waits there. Then, if you enter either a 1 or 2 and press RETURN, the test continues according to which value you entered.

2.2.8 ADV11D–A - Gets Fatal Bugcheck with Utility 5 and 6

When testing the utilities for the ADV11-DA, tests 5 and 6 are looking for a CSR of a second device. Because the device is not a part of this setup, "CTRL/C" is typed and then the HALT command is used to exit the test. The system responds with the following message and then crashes:

```
Fatal bugcheck, VAXELN V4.0 FATLMEMERR, unrecoverable
                                              memory error
Current Job = 000300c2
Program Name = NAADA

Test 5 of the utility is "D/A-A/D loopback test"
Test 6 of the utility is "Real time clock start test"
```

2.2.9 AAV11D - Util 12 Gives Fatal Bugcheck with CTRL/C, HALT

In a system with a KA640, DSSI, LANCE, DESQA and AAV11D, if Utility test number 12 is run on the AAV11D diagnostic, you are prompted as follows:

```
Enter the base CSR of the kwv11-C in use(default 170420 octal):
```

If you press CTRL/C - HALT at this point an ELN fatal bugcheck occurs as follows:

```
**** Fatal Bugcheck, VAXELN V4.0 FATLMEMERR, unrecoverable
                                                  memory error

 Current Job = 300d2

 Program name = NAAAA
```

The registers are then dumped.

This bugcheck also occurs if at the previous prompt, instead of CTRL/C halting, you enter the address' 160000 - 160004. If users enter any other incorrect address then they get a message requesting them to enter another address.

This error did not occur on a MicroVAX II system.

2.2.10 IGQ11 - Does Not Have a Service Mode Exerciser

The IGQ11 does not have a Service Mode Exerciser Test, as discussed in the *MDM Programmer's Guide*. This results in the IGQ11 not being continuously exercised with the Service Menu 4, sub-menu 2 Selection - "Exercise system continuously."

2.2.11 DRQ3B - Diag Can Cause System to Hang While Exercising

CONFIGURATION: Mayfair 2,DSSI,LANCE,DMV11,DRQ3B,DTQNA, DESQA,TK70

If the DRQ3B is exercised in the above configuration for an extended period of time then the system will eventually hang and will have to be powered down and back up again in order for MDM to be rebooted. The period of time in which it takes the system to hang is anywhere from 2 minutes to 24 hours but it will always hang.

When the system is hung you cannot enter CTRL/C mode or can't even BREAK out of MDM. You have to power up the system again to continue. This problem can be reproduced consistently quicker with the following configuration in which a Grant Continuity card is placed between the DRQ3B and the rest of the system.

```
(BA213 Box)
     Slot 1      Slot 2      Slot 3     Slot 4         Slot 5
     Mayfair 2    Memory     Desqa      Grant Card     Drq3b
```

Exerciser test 2 appears to be causing the hang. It does not appear to be a CPU-dependent issue. The problem has been reproduced with a Mayfair 3 and with a MicroVAX II when testing as in the above system with the Grant Continuity card.

2.2.12 NALAA - LPS40 Fails Utility Test 2

The diagnostic Utility Test #2 "Print Engine Emulator Test" fails. It does not tell the operator or give an opportunity for the operator to connect the Emulator Test Device. If the device is not connected, the test will fail.

2.2.13 NALAA - LPS40 Fails Utility Test 4

The diagnostic utility Test #4 "Print Engine Emulator Test" fails. The diagnostic does not advise the operator that the test is for a DUPLEX Printer Only.

2.2.14 IGQ11 - CTRL/C HALT During Functional Test Disables Device

The IGQ11 disables itself. If a "CTRL/C HALT" is issued during the IGQ11 Functional Test the next time that 2 "Relocation Memory Test" or functional test 4 "Shared Memory Address" is run the IGQ11 gets disabled by the monitor. Both tests are Verify Mode Tests. This occurs with both the MicroVAX and the Mayfair I CPU. A "Show Disable" indicates that the Monitor disabled the device as a result of an "ELN NO ACCESS ERROR."

2.2.15 VSV21 - Fails Service Exercisers When Run with the VS550

Problems occur when exercising the VSV21 and VS550 together on a system. There is no problem when exercising the VSV21 alone. The workaround is to run the VSV21 individually under service mode when a VS550 is present in the system configuration.

2.2.16 CXF32 - Fails Utility Test 1 with KA650 CPU

The diagnostic fails utility test 1, "Staged loopback test", with all ports looped back or with just one port looped back when run under the KA650 CPU. This error occurs regardless of which half of the board is being tested. A typical display follows:

```
There were 17 data errors in 10 cycles.
Interrupt failure occurred while transmitting on line 8.
DHCX0A - Error number 30
Error during port interrupt test.
```

2.2.17 DSSI - Diagnostic is Disabled if CTRL/C Entered in Functional Test

If a CTRL/C is entered during functional test 4 the diagnostic raises a "No Access Violation" and gets disabled by the monitor. This can also happen during Exerciser tests and MDM Menus 1 and 6. If testing is to continue, you must reboot MDM or issue a RESET CONFIG, CONFIG from CLM.

2.2.18 TSV05 - Diagnostic Reports a Unit Even If No Unit Present

When a system is configured with a TSV05 controller but without an attached drive, the diagnostic reports the following:

```
TSV05 Magtape Controller
    TSV05 - Unit #  0, Tape Drive Offline
```

2.2.19 VS550 - Diagnostic Fails When Exercised with The TK70

When exercising the VS550 and the TK70 diagnostics together, the VS550 will fail during exerciser test # 2 with the following error:

```
VS550 - Error Number 12
there were errors during the test
M7651 is the FRU
```

This error will occur when exercising the whole system or just exercising the TK70 and VS550 together.

2.2.20 KFQSA - Diagnostic Won't See RF71 Drives on First Configure

In any system with a RF71 attached to a KFQSA controller the drive will not be seen by the diagnostic during the initial CONFIGURATION command. If a second CONFIGURATION command is issued the drives will be seen by the diagnostic and can be tested.

2.2.21 RQDX - Diagnostic Fails Verify Test 3 If There Is No Floppy in RX50 Drive

The RQDX diagnostic fails verify test 3 if there is no floppy in the RX50 drive or the drive is off line. This could be a problem if the user is running Main MENU 1 or 6 because all they would see is a "not-so-helpful" error message. The user is then directed to "contact field service." A message that suggests a corrective action would have been more appropriate.

2.2.22 IDV11–C - Diagnostic Prints out DSL$TRUNCATED Message When Input Exceeds Limit

When running utility test 2 of the IDV11–C diagnostic, the user is asked to to enter a 6-digit number. If a number greater than the expected range is entered by the user, the message "ERROR:: DSL$TRUNCATED" is displayed by the diagnostic. The sequence of command and input is as follows:

```
Select a pattern pair, verifying it on the test connector and
EXIT by typing CTRL/C
1-st number of pair: Supply EXACTLY 6 digits (octal).
RANGE: 0 - 177777
```

2.2.23 IDV11–C - Diagnostic Prints Nonstandard CTRL/C Message When Prompting User

When running Utility Test 2 of the IDV11-C diagnostic, a message that suggests to the user to "type" instead of "press" CTRL/C to EXIT is displayed.

2.2.24 IAV11–A - Diagnostic Does Not Provide Limits on Available Channels

When running the Utility Test 2 of the IAV11-A diagnostic, and the user selects the "Dynamic analogue input test", one of the commands to the user is "Enter number of first channel to be used." The user is not alerted to the limits in the available number of channels. This could pose some problem since there are several channels that could be entered.

2.2.25 DSIA - Diagnostic Prints Nonstandard "CR" Message When Prompting User

When running Utility Test 2 of the DSIA diagnostic, the following message is displayed:

```
You may type "exit" to exit from this utility
or "CR" to display the local program directory.
```

The message should read:

```
You may type "exit" to exit from this utility or
press <RETURN> to display the local program directory.
```

2.2.26 KDA50 - Diagnostic Errors When Run Over an Extended Period on RTVAX system

When running Utilities on an rtVAX system over an extended period of time (about 24 hours) with the following configuration: CPU, memory, RQDX3, TK70, DHV11, DHQ11, DZV11, RC25, KDA50 (RA82), DPV11, DZQ11, and KWV11-C, an intermittent failure is reported. The error reported is:

```
KDA50QA - Error Number 21
Controller detected internal error.
M7164 controller processor module.
```

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